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EXAMINER

DIAZ, THOMAS C

ART UNIT

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4171

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05/23/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/501,821 | Applicant(s) HEATHCOTE ET AL. | |
| | Examiner Thomas Diaz | Art Unit 4171 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/19/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: The specification should not directly reference claims, because the claims can change during the examination process. This error first occurs in page 2, line 31 of the specification.

Appropriate correction is required.

Claim Objections

2. Claims 1 and 7 are objected to because of the following informalities: In the last paragraph of claim 1, the applicant misspelled the word shift and instead has "sift rail". In claim 7, the applicant recites "...in that which the..." and the word "which" appears to be a mistake. The examiner suggests omitting that word.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1- 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Okubo et al. (US patent 4608877).

Applicant claims the following gear shifting mechanism corresponding to the disclosed by Okubo et al.:

Regarding claim 1,

Applicant claims a gear shift mechanism (fig.1 and abstract) with:

- A shift rail selector element comprising two tongues where the tongues are spaced apart a fixed distance. This corresponds to Okubo et al.'s shift fingers (fig.1, 12 and 13).
- A first and second shift rails which are connected to shift forks and both having interlocking elements. This corresponds to Okubo et al.'s shift rails (fig.1, 1 and 3), connected to shift forks (fig.1, 6) and (fig.2, 6'), and also having connecting members (fig.1, 5b, and 5).

Regarding claim 2,

Applicant claims a third shift rail connected to another shift fork and having an interlocking element, which corresponds to the shift rail (fig.1, 4) and shift fork (fig.3, 6a) and connecting member (fig.1, 5d).

Regarding claims 3 and 4,

Applicant claims the gear shifting mechanism having two groups of shift rails where each group has two shift rails which corresponds to the two groups (fig.1, 1 and 2) and (fig.1, 3 and 4) presented by Okubo et al.

Regarding claim 5,

Applicant claims that the shift rails have engagement regions which correspond to the regions where the shift rails in Okubo et al. figure 1 connect to the connecting members in figure 1.

Regarding claim 6,

Applicant claims that the distance between the tongues are greater than the distance between two adjacent interlocking member which Okubo et al. teaches as depicted in figure 1. The distance between shift rails 1 and 2 is less than the distance between tongues 12 and 13.

Regarding claim 7,

Applicant claims that the distance between the selector tongues is smaller than the distance between two spaced apart interlocking elements which corresponds to the relationship of distances between the tongues and connecting members 5a and 5c disclosed in Okubo et al. figure 1.

Regarding claim 8,

Applicant claims a plurality of shift rails grouped in pairs and being spaced apart and where the selector tongues are each associated with one of the pairs of shift rails. This corresponds to Okubo et al.'s figure 1 and col.2, lines 61-66.

Regarding claim 9,

Applicant claims that the selector element is capable of moving in a direction traversing the shift rails and in a direction parallel to the shift rails. This corresponds to the movement of shift bar (fig.1, 7) which moves the tongues

traversely to the shift rails and also can rotate which allows the tongues to move longitudinally to the shift rails (see abstract of Okubo et al.).

Regarding claim 10,

Applicant claims that all the interlocking elements have a width which is less than the width of the respective shift rail measured in the same directions. Okubo et al. teaches this through figure 1, where as seen the width of the connecting members is less than the width of rails.

Regarding claim 11,

Applicant claims that the width of the interlocking elements is approximately half the width of the respective shift rail measured in the same direction. This is also depicted in figure 1 of Okubo et al. in particular where connecting member 5b is approximately half the width of rail 1.

Regarding claim 12,

Applicant claims that the width of the tongues essentially correspond to the width of the interlocking elements which corresponds figure 1 of Okubo et al. where the width of the tongues (fig.1, 12 and 13) essentially correspond to the width of the connecting members 5, 5a-d).

Regarding claim 13,

Applicant claims the selector element having a blocking element which blocks the shift rails when the tongues are at least in partial engagement with the shift rails. This corresponds to what is blocking members (fig.1, 14 and 14') which

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block the shift rails from being moved when a tongue is at least in partial engagement with the shift rails (col. 3, lines 17-20).

Regarding claim 14,

Applicant claims that the blocking element only releases one of the shift rails for engagement and movement. This is also taught by Okubo et al. in col.3, lines 17-20.

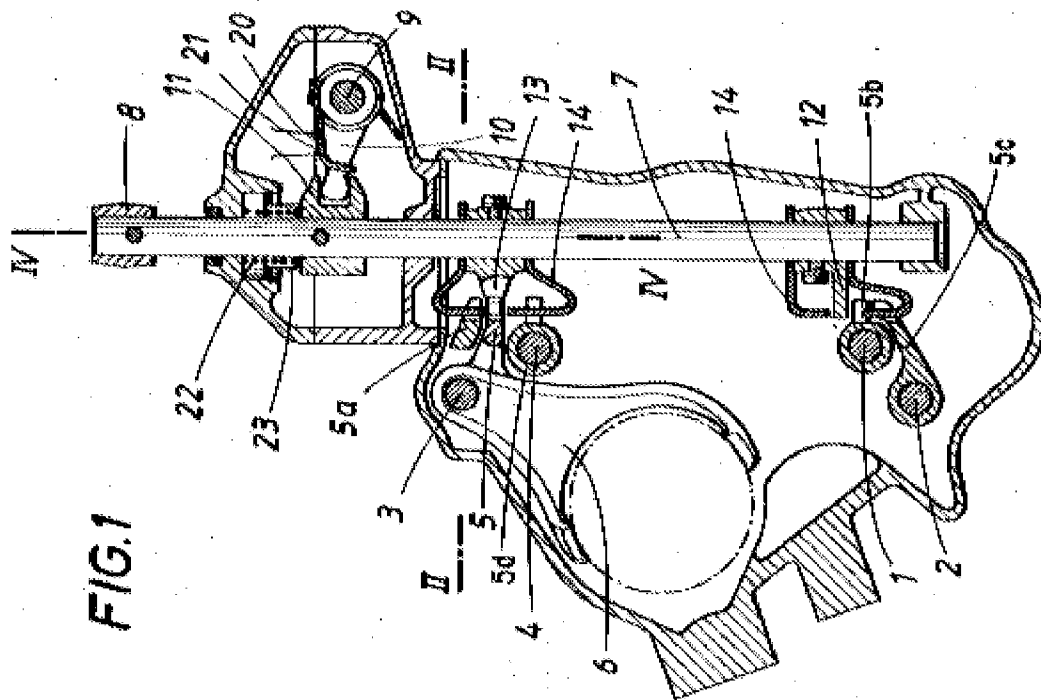


Figure i- Okubo et al.'s figure.

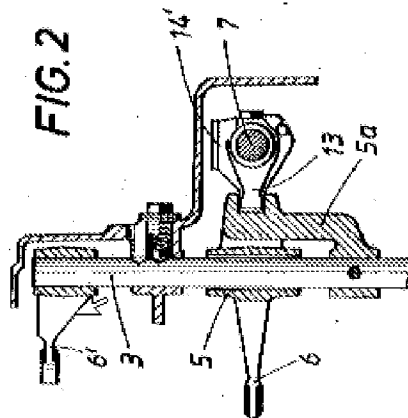


Figure ii- Okubo et al.'s figure.

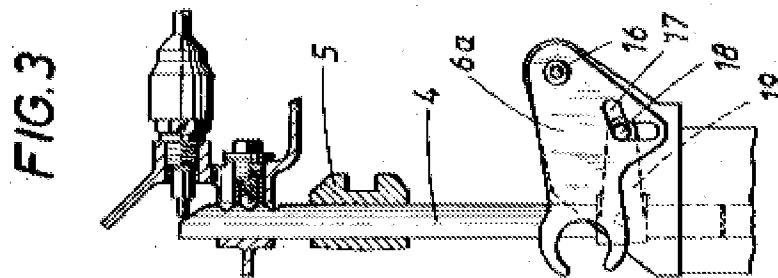


Figure iii- Okubo et al.'s figure.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6, 7, 10, 11, and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo et al.

In regards to these claims, the applicant makes limitations regarding the relationships of distances between different components in the transmission and also the size or distance of the width of certain components.

The examiner notes that varying the distances between the tongues and the connecting members and the distances in regards to the widths of certain elements would be obvious in optimizing the type of transmission being made. Transmissions with shift rails always function in a similar manner where a selector member engages only one shift rail for the purpose of generating certain gear ratios from the transmission.

"[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955)

7. Claims 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo et al., as applied in claims 1-14, in view of Meyers et al. (US patent 4892001).

Okubo et al. teaches all the structure discussed above regarding claims 1-14. In addition, Okubo et al. teaches a housing for the gear shifting mechanism seen in figure 1 but not labeled.

Okubo et al. fails the following limitations of claims 15-19:

Regarding claim 15 and 19,

The blocking element being arranged on a support which can be displaced in a first direction and is connected to the selector element where the selector element is freely movable in a second direction.

Regarding claim 16,

The selector element being biased towards its center position by means of at least one spring and at least in the first direction and where the selector tongues are in engagement with the interlocking element of a selected shift rail.

Regarding claim 17,

The support having an extension in the first direction which supports a pressure spring supported between two driver plates, which are stretched between detents formed on the extension, where two stationary contact faces are assigned to the pressure spring.

Regarding claim 18,

The shift rail selector element being seated on a support which is in turn seated in a housing wherein the selector element has a means for a connection with a shift finger. The applicant recites USC 112th sixth paragraph in regards to a means for connecting the selector element with a shift finger. The applicant discloses a forked end (51) for this means.

Meyers et al. teaches the following structure for purpose of providing an interlock bracket for a vehicle transmission:

Regarding claim 15 and 19,

A gear shifting mechanism (fig.2, 12) for a transmission that has a blocking element (fig.4, 56) arranged a support (fig.4, 50) which can be displaced in a first direction (col.5, lines 46-51) allowing the engagement of various shift

rails and is connected to a selector tongue (fig.3, 37) which can move about the longitudinal direction of the shift rail (fig.3, 27).

Regarding claim 16,

The selector element (fig.3, 37) is biased towards a neutral center position by at least one spring (fig.3, 72 and 67) in the first direction. The selector tongue (fig.3, 37) engages a selected shift rail (fig.3, 27) through the connecting element (27a).

Regarding claim 17,

The support discussed above has an extension or shaft (fig. 3, 68) which supports a spring (fig.3, 67 and 72) which is supported between the driver plates (fig.3, 71 and 66), and stretched between detents (fig.3, 70) formed on the shaft and where two stationary contact faces (fig.3, 70 and 71).

Regarding claim 18,

Meyers et al. teaches the selector element as discussed above seated in the support (fig.3) which is seated in a housing or casing (fig.3, 11 and 17) and where the selector element has a means (fig. 3, 22) or a pin inside a dome which connects the selector element to a shift finger or lever (fig.3, 13).

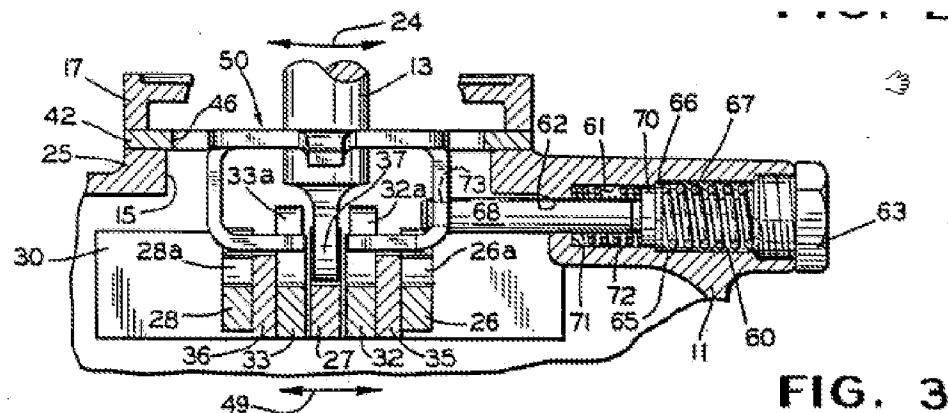


Figure iv- Meyers et al. figure.

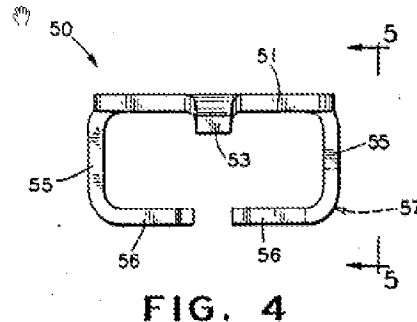


Figure v- Meyers et al. figure.

It is clear that Okubo et al. teaches a gear shifting mechanism similar to the applicant's invention except for the features mentioned above. However, Meyers et al. teaches the elements which Okubo et al. fails to disclose for a similar shifting mechanism which is used in a vehicle transmission. Meyers et al. further discloses that the invention has a purpose of providing the operator with tactile feedback allowing for the operator to be able to feel what shift bar or rail has been selected (col.2, lines 48-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Okubo et al. with the teachings of

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Meyers et al. to create a gear shifting apparatus that allows for tactile feedback and centering a shift lever.

In regards to the limitations of claim 17, the contact faces 70 and 71 are stationary when the shift lever is in a centered and neutral position or at equilibrium.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art contains similar shifting mechanisms and apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas Diaz whose telephone number is (571)270-5461. The examiner can normally be reached on Monday-Thursday 7:30am-6:00pm, Friday's off..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571)272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit 4171

Thomas Diaz
Examiner
Art Unit 4171